

AMENDMENT UNDER 37 C.F.R. § 1.111  
Application No.: 10/743,873  
Atty Docket No.: Q78691

### **REMARKS**

The Office Action of July 1, 2004 has been received and its contents carefully considered.

Claims 1 to 15 are all the claims pending in the application, prior to the present amendment.

Applicants note that the Examiner has indicated that claims 3, 4 and 8 to 10 contain allowable subject matter and would be allowed if rewritten in independent form.

At page 2 of the Office Action, the Examiner states that the listing of the references in the specification does not qualify as a proper Information Disclosure Statement. The Examiner points out that the rules require a list of all patents, publications or other information submitted for consideration by the Office Action must be submitted in a separate paper. The Examiner states that unless the Examiner has cited the references on a Form PTO 892, they have not been considered. The Examiner further states that the Information Disclosure Statement filed on December 24, 2003 has been considered.

The present specification, in the "Background Art" section, refers to the following documents: (a) U.S. Patent No. 5,807,646 (JP 9-86933A), (b) JP 4-237970 and (c) JP 4-14752.

The Information Disclosure Statement filed on December 24, 2003, and which the Examiner has initialed and dated, cites JP 4-237970 and JP 4-14752. Thus, these two documents have been considered and made of record.

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U.S. Patent No. 5,807,646 and JP 9-86933, however, have not been cited in an Information Disclosure Statement and, thus, have been considered by the Examiner to the extent they are described in the present specification.

Applicants are filing concurrently herewith an Information Disclosure Statement to cite these documents.

Claims 1, 3, 5, 12 and 13 have been rejected under the second paragraph of 35 U.S.C. § 112 as indefinite.

The Examiner sets forth a number of reasons for this rejection in paragraphs (a) to (f), at pages 3 and 4 of the Office Action.

In response, applicants have amended the claims as set forth above and provide the following comments.

With respect to paragraph (a) of this rejection, applicants have amended claim 1 to delete the phrase “predominately comprising an Li-Mn composite oxide with the spinel structure”.

With respect to paragraphs (b) and (c) of this rejection, applicants have amended claims 1 and 5 to recite proper Markush language and to otherwise clarify the language of these claims by, for example, removing <sup>unclear</sup> ~~under~~ punctuation. ✓

With respect to paragraph (d), as a result of the amendment to claim 5 to overcome the rejection in paragraph (c), applicants have deleted the phrase “is molten on the surface of particles of Li-Mn composite oxide so as to carry out the above described sintering process”.

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Applicants submit that the deletion of this phrase in claim 5 overcomes the rejection in paragraph (d).

With respect to paragraph (e), applicants have amended claim 3 to recite that the lowering is to a “sintering-shrinkage-initiating temperature”. The present specification at page 12, first paragraph, defines the term “a sintering-shrinkage-initiating temperature” to mean “a shrinkage-initiating temperature”. Thus, these terms have the same meaning. Therefore, in order to make it clear in claim 3 that the “sintering-shrinkage-initiating temperature” and the “sintering-initiating temperature” are referring to the same temperature, applicants have amended claim 3 to employ the exact same term throughout the claim.

With respect to paragraph (f), applicants have deleted the word “predominately” in claim 1 in order to respond to the rejection in Paragraph (a).

The word “predominately”, however, is still present in claims 12 and 13.

Applicants submit that one of ordinary skill in the art would understand that the word “predominately” in claims 12 and 13 means that the Li-Mn composite oxide with a spinel structure is present in an amount that is greater than any other component of the cathode electroactive material.

Further, applicants have amended claim 10 as set forth above to make it clearer by deleting reference to a “binder”, since the word “binder” was not employed in claim 9, and to insert the term “granulation and” which was employed in claim 9.

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In view of the above, applicants submit that the claims comply with the requirements of the second paragraph of 35 U.S.C. § 112 and, accordingly, request withdrawal of this rejection.

Claims 1, 2, 5 to 7 and 11 have been rejected under 35 U.S.C. § 102(b) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over JP 10-302767 to Suketani et al in view of the Sulzermetco Data Sheet, 2004.

In response, applicants have amended claim 1 to incorporate the recitations of allowed claim 8 and have canceled claim 8.

In view of the above, applicants request withdrawal of this rejection.

Claims 1, 2, 5 and 11 have been rejected under 35 U.S.C. § 102(b) as anticipated by JP 11-176441 to Kasai.

In response, applicants have incorporated the recitations of allowed claim 8 into claim 1.

In view of the above, applicants request withdrawal of this rejection.

Claims 12 to 15 have been rejected under 35 U.S.C. § 103(a) as obvious over JP 10-321227 to Tsubata et al.

Applicants submit that Tsubata et al do not disclose or render obvious the subject of claims 12 to 15.

The Examiner particularly refers to the Abstract and Paragraphs [0010], [0027] to [0032] of JP '227.

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The Examiner also refers to paragraphs [0040], [0148], [0109], [0124] and [0043], which applicants believe are references to U.S. Published Patent Application 2004/0135128 that corresponds to the present application.

The Patent Abstracts of Japan for JP '227 discloses that the porosity of an applied positive electrode is set to 15 to 40%. This porosity of 15 to 40%, however, is not the same as set forth in the present claims 12 to 15.

In the Office Action, the Examiner argues that JP '227 would inherently have the same porosity as the present claims because JP '227 discloses a composition that is nearly identical to that set forth in the present specification and overlaps in primary article size.

The porosity of JP '227 indicates the porosity in the coating film of the positive electrode. See paragraph [0010] of JP '227.

Applicants provide the following translation of paragraph [0010] of JP '227 in place of the computer translation attached to the Office Action.

“Furthermore, the positive electrode of the cell of this invention must be a coating film whose porosity is 15% - 40%. The porosity here means the ratio by volume of the pores which can be substantially impregnated with the electrolytic solution to the whole volume of the film, i.e., the volume ratio of the film other than that of the film-constituting materials such as an electroactive material, conductivity-imparting agent and binder. When the porosity is less than 15%, the properties of the battery kept at high temperature become good, but since the contact area with the electrolytic solution decreases too much, a discharge property deteriorates.” (Emphasis added).

Meanwhile, the porosity set forth in claims 12 to 15 of the present application means the porosity in the secondary particle, i.e., the porosity in the total cross-section area of all pores in

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the secondary particle, as described in claim 12 and pages 25-26 in the specification. As disclosed at pages 25 to 26:

The cross-section area of one secondary particle (B) calculated from the obtained SEM photographic image and the total cross-section area of all pores (A) included in the cross-section area of one secondary particle were determined by means of an image-analyzer.

Accordingly, applicants submit that JP '227 does not disclose or suggest the present invention as set forth in claims 12 to 15.

In view of the above, applicants request withdrawal of this rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER